



# Case Study

## Reducing Nitrogen Application Rates on Older Ratoons While Maintaining the Farms Productivity



<b>LANDHOLDER</b>	PCCF2022BAV44
<b>LOCATION</b>	Ayr
<b>CATCHMENT</b>	Burdekin
<b>RAINFALL</b>	936 mm/yr
<b>PROPERTY SIZE</b>	397 ha
<b>ON-GROUND PROVIDER</b>	Nutrien Ag Solutions (Ayr)

**Project Catalyst** is a grower led, sugar cane innovation and adoption project that explores, develops and validates farm management practice change to improve the enduring water quality of the Great Barrier Reef.

### **BROADER ADOPTION VALIDATION & GROWER SUPPORT**

Founded in 2009, the project operates in the Mackay Whitsunday, Burdekin and Wet Tropic regions to deliver valued practice change outcomes and develop methods for industry adoption. Under the Broader Adoption and Grower Support program, professional on-ground service providers assist selected growers to adopt and validate appropriate change practices. Service providers continue to monitor implementation benefits and derived environmental performance improvements. Through targeted extension activities, the program seeks to accelerate the uptake and broader adoption of improved farming practices at local, regional and industry levels.

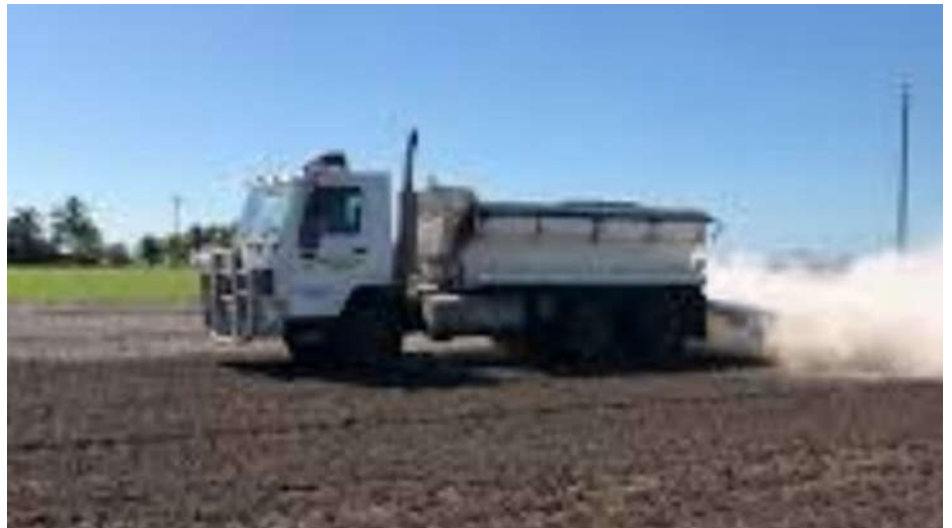


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●●●● Goal

To investigate the opportunity to conduct a complete review and update of the farm's Nutrient Management Plan. To identify whether reductions in fertiliser application rates could be made without productivity penalties, thereby saving on fertiliser costs and reducing off-farm environmental effects



Gypsum Spreader addressing soil constraints of Cracking Clay soils

●●●● Overview

This Burdekin farm is under furrow irrigation and located in the highest sugarcane producing region in Australia, where sugarcane thrives on high sunlight, low rainfall and high reliability on irrigation water supply.

The dominant soil type on farm is a cracking clay. The soil is regarded as marginal, mainly due to sodicity and salinity issues. The grower is aware that an ameliorant is required to maximise crop yield and nutrient application.

The plan is to adopt a practice change to decrease nitrogen application on old ratoon blocks across the farm, whilst maintaining farm productivity.



Soil Type - Cracking Clay

●●●● Action

The grower completed the P2R-21 Question Survey, which allowed for a baseline of their current management practices to be set. With this information, the grower's Nutrient Management Plan was able to be revised and updated in relation to their current practices. When completed, the grower could identify where nitrogen application savings could be made, without impacting farm productivity.

As per 6Easy Steps, ratoons on farm were allocated 200kg N/ha. Older ratoons would typically receive 180kg N/ha however, the review indicated that 170kg N/ha was sufficient. A nitrogen reduction of 30kg/ha was implemented across all old ratoon blocks on farm.

Immediate cost savings are created for the sugarcane grower when nitrogen application rates are reduced across old ratoons, and crop yields are not impacted.

Once a suitable practice change was identified with the support of NAS, it was easy for the grower to implement, requiring a simple adjustment in nitrogen application rate.

●●●● Outcome

With the support of Project Catalyst and Nutrien Ag Solutions the grower has adopted beneficial and sustainable farming practice changes across his farm. The main focus being improving the quality of water leaving the paddock, and reducing the impact on the Great Barrier Reef. A DIN saving of 91kg was achieved.

The grower has been provided with a Nutrient Management Plan which extends a revitalised Best Management Practice (BMP) approach to farming and the environment. With this, comes the latest advice that allows nutrients to be managed efficiently, in response to the grower's own on-farm conditions, crop requirements and farming practices. The grower has implemented the recommended practice change and meets the projects practice change pathway goal of one new practice change adopted over the one year term of the project.



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